



New record and range extension of *Columbina minuta* (Linnaeus, 1766) (Columbiformes, Columbidae) in Rondônia state, Brazil

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Abstract

Based on field surveys, we report new distribution data of *Columbina minuta* (Linnaeus, 1766), Plain-breasted Ground-dove, from Rondônia state, southwestern Amazonia, Brazil. A new record of *C. minuta* from Rondônia, extends the geographic distribution of this species by approximately 550 km north and 430 km east of the previously known distribution.

Keywords

Amazon, range extension, Plain-breasted Ground-dove, ornithology

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Introduction

Columbina minuta (Linnaeus, 1766), Plain-breasted Ground-dove, belongs to the family Columbidae (Antas 1986). Its distribution ranges from eastern Colombia to Venezuela, Trinidad, the Guianas, Brazil, and north-eastern Argentina (Sick 2001). The species is prevalent in grasslands, restingas, and caatingas, preferring dense, low vegetation and is uncommon in large cities (Sick 2001). It lives in pairs most of the time and occasionally can be found in small groups of up to a dozen individuals (WikiAves 2022). This species feeds on grain found on the ground and also frequents seed birdfeeders (Antas 1986). It breeds as soon as extra food resources

are available and can breed throughout the year (Goodwin 1970; WikiAves 2022). Some individuals may occasionally nest on the ground (Goodwin 1970; WikiAves 2022), but usually nests are built on platforms in trees, bushes, hollows, or even small caves (Antas 1986).

Methods

The observation was made during an ornithological survey in the municipality of Porto Velho, Rondônia state, Brazil. Porto Velho is in the middle of the Amazon rainforest. The equipment used for the recording was a Nikon

P900 camera. Photos ([WA4121880](#) and [WA4121878](#)) were deposited in the WikiAves database (Barbosa 2020a, 2020b). The Merlin Bird ID app from Cornell Ornithology Lab in Cornell University was used to assist in identification. We produced the map (Fig. 3) in QGIS v. 3.18.1-Zürich (QGIS Development Team 2021), and we used the BirdLife International (2022) *C. minuta* distribution map to compose the limits of this species' previously known distribution.

Results

Columbina minuta (Linnaeus, 1766)

Figures 1–3

New record. BRAZIL – Rondônia • Porto Velho; –09.0972, –064.0406; 108 m elev.; 20.XII.2020; Raul Afonso Pommer Barbosa obs.; [WA4121880](#) and [WA4121878](#).

A single adult individual of *C. minuta* was observed vocalizing and feeding near a rural road.

Identification. We identified the *C. minuta* by a set of diagnostic features. It is 14–16 cm long and smaller than *Columbina talpacoti* (Temminck, 1811), Ruddy Ground-dove. We speculate that this is a male individual. The male of this species is not strongly reddish brown like the male of *C. talpacoti*. It is dark brown, with a bluish gray head and a slight reddish tinge to the chest. The female has more muted colors. On the wings, the black balls are larger and fewer in number than the *C. talpacoti*. Under excellent lighting conditions, a bluish iridescence to these wing markings is noticeable, and this feature can be best seen in Figure 2 (WikiAves 2022). According to the known distributions of the four subspecies, *C. minuta minuta* is possibly the one that occurs in this area.

Discussion

There are few records of *Columbina minuta* in the central-western Brazilian Amazon basin, and most are from Manaus region (Omena and Cohn-Haft 2008). On the citizen science website WikiAves (2022 records of *C. minuta* from Rondônia are available since 2011. These records are from the municipalities of Porto Velho, Candeias do Jamari, Ariquemes and Itapuã do Oeste; there are 16 records in total, including this study. Our new record of *C. minuta* from Rondônia extends the geographic distribution of this species by approximately 550 km north of the distribution according to Birdlife International (2022), and 430 km east of the work by Guilherme et al. (2017).

The distribution of *C. minuta* is still not very well understood in the southwestern Brazilian Amazon (Guilherme et al. 2017). Studies on the ecology of *C. minuta* indicate that it can adapt very well in open, hot areas (Macario et al. 2021), which suggests that the opening of fields for monoculture and the degradation of the



Figure 1. *Columbina minuta* individual recorded in Porto Velho by Raul Afonso Pommer-Barbosa.



Figure 2. *Columbina minuta* individual in sunlight showing bluish iridescence on the wings recorded in Porto Velho by Raul Afonso Pommer-Barbosa.

Amazon rainforest could contribute to the presence of the species in Porto Velho.

Previous studies have sought to understand the dynamics of hunting and illegal trade of wild animals (Alves et al. 2012; Sánchez-Mercado et al. 2016), indicating that birds are used as sources of food and also as pets (Teixeira et al. 2014; Costa et al. 2018). *Columbina minuta* is an animal kept as a pet in northeastern Brazil (Teixeira et al. 2014), and there is the possibility that this is also the case in the northern region of the country. Thus, it is possible



Figure 3. Map showing the distribution of *Columbina minuta* in South America. Orange point marking the previous record for the state of Acre by Guilherme et al. (2017). Red point marking the new record in the state of Rondônia.

that individuals of *C. minuta* may escape from captivity and be recorded in the region of Porto Velho.

The genus *Columbina* suffers intense hunting pressure for exploitation as pets and for meat, either for subsistence or for cultural reasons (Teixeira et al. 2014; Costa et al. 2018; WikiAves 2022). Possible explanations of the distribution of *C. minuta* in the Amazon region are worthy of investigation, especially from the perspective of deforestation, alteration of biomes, and changes in the species' habits, as well as unnatural means, such as captive breeding. All these queries may suggest new lines of research that we expect could increase knowledge of and help preserve this species.

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Authors' Contributions

Conceptualization: MAO, RAPB. Data curation: RAPB, MAO. Investigation: ALCP, JFTR, RAPB, WSPN. Methodology: RAPB. Visualization: ALCP, WSPN. Writing – original draft: JFTR, MAO, RAPB. Writing – review and editing: RAPB.

References

Alves RRN, Lima JRD, Araujo HFP (2012) The live bird trade in Brazil and its conservation implications: an overview. *Bird Conserv*

vation International 23 (1): 53–65. <https://doi.org/10.1017/s095927091200010x>

Antas PTZ (1986) Nidificação no Chão aa Rolinha-Roxa Mirim, *Columbina minuta*, em Pedro Avelino, Rio Grande do Norte, Brasil. Revista Brasileira de Zoologia 3 (7): 465–466. <https://doi.org/10.1590/s0101-81751986000300005>

Barbosa RAP (2020a) [WA4121880, *Columbina minuta* (Linnaeus, 1766)]. WikiAves—a enciclopédia das aves do Brasil. <http://www.wikiaves.com/4121880> Accessed on: 2022-01-16.

Barbosa RAP (2020b) [WA4121878, *Columbina minuta* (Linnaeus, 1766)]. Wiki Aves—a enciclopédia das aves do Brasil. <http://www.wikiaves.com/4121878> Accessed on: 2022-01-16.

BirdLife International (2022) Species factsheet: *Columbina minuta*. <http://www.birdlife.org> Accessed on: 2022-01-16.

Costa VJF, Ribeiro RE, de Souza CA, Navarro RD (2018) Espécies de aves traficadas no Brasil: uma meta-análise com ênfase nas espécies ameaçadas. Journal of Social, Technological and Environmental Science 7 (2): 324–346.

Goodwin D (1983) Pigeons and doves of the world. 3rd edition. Cornell University Press, New York, USA, 560 pp.

Guilherme E, Mesquita R, Santos E, Silva D, Araújo J (2017) On the occurrence in Acre of four poorly-known bird species in southwestern Brazilian Amazon. Check List 13 (4): 61–65. <https://doi.org/10.15560/13.4.61>

Macario P, Toledo-Lima GS, Tavares-Damasceno JP, Pichorim M (2021) Avian response to prolonged drought in drylands: the case of two dove species in Brazil's semi-arid region. Journal of Arid Environments 188: 104447. <https://doi.org/10.1016/j.jaridenv.2021.104447>

Omena Júnior RS, Cohn-Haft M (2008) Primeiro registro da Rolinha-de-asa-canela *Columbina minuta* para Manaus, estado do Amazonas, Brasil. Cotinga 29: 180–181.

Sánchez-Mercado A, Asmussen M, Rodríguez-Clark KM, Rodríguez JP, Jedrzejewski W (2016) Using spatial patterns in illegal wildlife uses to reveal connections between subsistence hunting and trade. Conservation Biology 30 (6):1222–1232. <https://doi.org/10.1111/cobi.12744>

Sick H (2001) Ornitologia brasileira. Nova Fronteira, Rio de Janeiro, Brazil, 912 pp.

Teixeira PH, Thel T, Ferreira JM, de Azevedo S, Junior WR, Lyra-Neves R (2014) Local knowledge and exploitation of the avian fauna by a rural community in the semi-arid zone of northeastern Brazil. Journal of Ethnobiology and Ethnomedicine 10 (1): 81. <https://doi.org/10.1186/1746-4269-10-81>

WikiAves (2022) <https://www.wikiaves.com.br/wiki/rolinha-de-asa-canela> Accessed on: 2022-01-16.